Rocky Flats Cleanup Commission

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Comments of W.A.Kemper on"Interim...Remedial Action Plan...881 Hillside Area" Oct.'89

This plan is,as its title states,only an interim,remedial, action,not a cleanup.But it is a first step and accordingly,I believe it should be supported unless seriously flawed.I found it somewhat difficult to read and possibly containing some small technical errors easily correctable.,but nothing that would cause it to be rejected.

There is some question whether 881 Hillside should have been chosen for the initial remedial action.(1) Perhaps it is the area of greatest immediate concern.But it does appear that the danger from 881 Hillside is principally from volatile organic compounds (VOC's)whereas the public's greatest concern is with radionucleides. But the public should be aware the VOC's are also toxic and can cause problems such as attributed to Martin Marietta.The cost of implementing this interim remedial action will be about$4.6M . It will effect the removal of about 80 lb. VOC's,5 lb.selenium, and 0.2×10^{-3} curie of radionucleids and other substances of lesser concern per year.More important,it should assure that seepage and drainage from 881 Hillside will present absolutely no risk to the drinking water supply.Detailed comments follow:

(1) The report would be easier to read had it been organized differently and a table of acronyms been included.For example it is not readily clear under "alternatives" whether measures being discussed are for water treatment or for containment and collection,nor which measures are recomended of those being considered. The final proposed system is shown in Fig.6-1.

(2)The site numbers,p.2-3,do not correspond to the numbers on fig.2-2.

(3) The "description of Surroumding Land Use and Population

(1) Note par.2-3 p.2-31

Density"minimizes the area at risk.Are there not schools and hospitals closer than 6 and 10 miles from the plant and ranches closer than 10 miles? I'd say they are right adjacent.(Ranch and farm areas).Several new housing subdivisions are within a few miles of the buffer zone.See Fig.2-3. A 5-mile radius takes in all of Broomfield,most of Westminster and part of Arvada.

(4)It may be noted that all the VOC's above tolerated concentrations (ARAR) are chlorinated hydrocarbons.Are there no other appreciable amounts of non-volatile organic compounds:dioxins ,PCB's or other?Of the metals, only selenium seems to be of appreciable concern,except of course the radionucleids.More needs be known about these.How much is natural uranium if any? How much is background?And,how much cesium and other fission products exist/ If any fission products are detected,I would not expect that they were from world wide fallout.

(5)In tables 2-1,2-2 and2-3,400pCi is stated as background for tritium. How can there be a background value for tritium since all is man made? The measured values for average tritium activity exceeds the average"gross" Beta activity by an order of magnitude.How can this be when all the tritium activity is Beta?Ans:Gross Beta does not include tritium.Tritium and tritium Beta are very difficult to determine.400pCi are min.detectable limit.

(6)If Ur (natural) content of the water to be treated is 15pCi/l (p. 2-23,2-27 and p.4-26)and natural uranium has an activity of 7×10^{-7} Ci/g. (See RFP response,p12, to EPA 2/24/89) and most of this Ur is absorbed on the strong base resin, this amounts to 285 g/yr.Will 28 cu.ft. of the resin contain this for 30 yrs.as stated? Quite reasonable to believe it should.285g/yr is only 0.6lb./yr.

(7) Will French trench contain surface run off in heavy rain?

(8)p.4-49 Worker (and surrounding populace)protection requires that no radionucleids are released from the soil into the air and drift away.

(9)14,000 gal.waste water are generated per 100,000 gal water treated What happens to this waste water?See p.4-28.

(10)P.4_27.Does IR120 or IRA 94/402 remove Se?If not,and only the

activated alumina absorbs the Selenium,a 50/50 split will not reduce the selenium to an ARAR level.Ans:IRA94/402 does remove selenium.

(11)Will the Rohm &Haas IRA-402 resin remove any plutonium that might be present?Ans: Yes.

(12)I am curious why old fuel oil tanks were filled with concrete rather than disposed of as scrap.Did they contain something more toxic than oil? See p.2-3,site4,5.

(13) Par.2 of p.2-1 states that the mission of the plant is fabrication of warhead components.I am left to wonder what else goes on in the plant that kilograms of plutonium,as reported in the press,were in the ducts. Ans:Relatively large amounts of plutonium,whether in kilogram quanties or not, may have come from incineration of low level waste.

Answers added after discussion with Mr.Mike Anderson of Roy F.Weston Co. 11/8/89.